

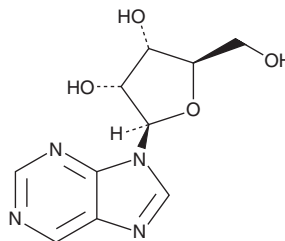
# PRODUCT INFORMATION



## Nebularine

Item No. 31329

<b>CAS Registry No.:</b>	550-33-4
<b>Formal Name:</b>	9-β-D-ribofuranosyl-9H-purine
<b>Synonyms:</b>	Desaminoadenosine, NSC 65423, Purine riboside, Purinosine, Ribosylpurine
<b>MF:</b>	C <sub>10</sub> H <sub>12</sub> N <sub>4</sub> O <sub>4</sub>
<b>FW:</b>	252.2
<b>Purity:</b>	≥98%
<b>UV/Vis.:</b>	λ <sub>max</sub> : 244, 264 nm
<b>Supplied as:</b>	A crystalline solid
<b>Storage:</b>	-20°C
<b>Stability:</b>	≥4 years
<b>Item Origin:</b>	Synthetic



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Nebularine is supplied as a crystalline solid. A stock solution may be made by dissolving the nebularine in the solvent of choice, which should be purged with an inert gas. Nebularine is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of nebularine in these solvents is approximately 30 and 15 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of nebularine can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of nebularine in PBS, pH 7.2, is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Nebularine is a purine ribonucleoside and an adenosine analog that has been found in *L. nebularis* and has diverse biological activities.<sup>1-5</sup> It reduces herpes simplex virus 1 (HSV-1) viral plaque formation in Vero cells (IC<sub>50</sub> = 0.6 μM) and is active against *M. phlei*, *M. avium*, *M. tuberculosis*, and *B. abortus*.<sup>1,2</sup> Nebularine (10 and 100 μM) is cytotoxic to COS-7 cells and induces pyknosis in mouse sarcoma 180 cells and mouse embryonic skin explants in a concentration-dependent manner.<sup>3,4</sup> It inhibits root growth of wheat seedlings when used at concentrations ranging from 0.1 to 2 mM.<sup>2</sup> Nebularine also inhibits adenosine deaminase (K<sub>i</sub> = 16 μM).<sup>5</sup>

### References

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2. Brown, E.G. and Konuk, M. Plant cytotoxicity of nebularine (purine riboside). *Phytochemistry* **37(6)**, 1589-1592 (1994).
3. Tkacz, K., Cioroch, M., Skladanowski, A.C., *et al.* The cytotoxic effect of purine riboside on COS-7 cells. *Purine and Pyrimidine Metabolism in Man X. Advances in Experimental Medicine and Biology.* Zoref-Shani, E. and Sperling, O., Springer. (2000).
4. Biesele, J.J., Slautterback, C., and Margolis, M. Unsubstituted purine and its riboside as toxic antimetabolites in mouse tissue cultures. *Cancer* **8(1)**, 87-96 (1955).
5. Shewach, D.S., Krawczyk, S.H., Acevedo, O.L., *et al.* Inhibition of adenosine deaminase by azapurine ribonucleosides. *Biochem. Pharmacol.* **44(9)**, 1697-1700 (1992).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

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